The Nuts 'n Bolts of Lift Maintenance

By Matthew Barnett

Tips for regular maintenance during winter and anytime.

Multiple safety checks should be done by drivers and mechanics to each wheelchair lift over the course of a year. They can be broken down into daily checks performed by drivers, bi-weekly safety checks that could involve drivers and the agency's mechanic(s), a mandatory six month safety check (after 1750 cycles of operation) to be done by a mechanic, and an annual safety check (after 3500 cycles of operation) that must be done by an authorized service agent. It's important to be up-to-date on maintenance for safe and efficient lift operation.

Daily safety check

Drivers should run the lift for one cycle while observing the lift's overall condition. Listen for any abnormalities, such as grinding or binding. Check the control pendant (remote control) for damage and make sure the cable connectors are still tight.

Two-week safety check

Drivers who feel comfortable doing so can perform a good portion of this safety check. Start by checking the overall condition of the lift, as well as checking the underside of the vehicle to verify everything looks normal. After the control pendant is checked, inspect the electrical wiring for frayed wires, loose connectors, etc. When all is good, you can place the vehicle in non-interlock mode and attempt to operate the lift. The next step is to check handrail integrity. All handrail fasteners should be properly tightened. Re-affix or replace any decals that are not clearly visible and legible.

Mechanics should take over from here. Ensure that all lift mountings and support points are in proper order and free of damage. Mounting bolts should be tight. Next, ensure that all traveling frame pins are installed properly and are free from damage and locked into position. The platform and platform attachment points should operate properly during all lift functions without obstruction(s).

Check that the inner rollstop is properly operating during lift functions without obstruction(s), as well. The inner rollstop should deploy fully as the platform stops at proper vehicle floor level. Now observe the platform rollstop to be certain that it operates properly without obstruction(s) when it contacts the ground.

The last step is to check the hydraulic power unit for leaks and its fluid level. Also, make sure the pump's backup manual release valve is lightly-snug.

Six-month safety check

Mechanics should check the handrails for properly tightened fasteners. The lift should be cleaned with mild soap and wiped dry. Surfaces can be rubbed down with a light oil using a soft cloth to avoid rusting. Wipe clean any excess oil. A lubricant can be sprayed to lubricate the lift. Make sure to follow the labeled directions on the container, and wipe excess grease from surrounding areas. Next, make sure the platform is at ground level, and be certain that the pump hydraulic fluid level is maintained at the required FULL level with the lift in this lowered position. Only add Texaco 01554 Aircraft Hydraulic Oil or its equivalent U.S. mil spec H5606G fluid.

Annual safety check

This safety check (3500 cycles of operation) must be performed by an authorized service agent only. They will inspect the hydraulic cylinder, hoses, and fittings. As with the six month check, service should be increased if lift use is heavier than normal (ten cycles or more daily).

Newer buses are experiencing more battery cable corrosion. Be sure to clean your cables regularly.

Corrosion alert

Zack Zackula of Kansas Truck in Wichita, KS, recently spoke to us about corrosion they are seeing in side-mounted battery compartments. Adding to the problem, Zackula mentioned that bus builders are starting to mount the circuit breaker in this compartment.

"…We have seen a number of cases in which the corrosion

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Sources

RICON S-Series™ Transit Use Wheelchair Lift: Maintenance and Repair PDF

http://www.cargafacil.com/biblioteca/pdf/elevadores/s-series/32dsst00.j4.pdf

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will cause a bad connection or eat up the cables," he said. Zackula believes more ventilation may help the problem.

As buses become more "sophisticated," they require more battery power. "We are charging the batteries harder because of more equipment on our buses," Zackula said. "We need to maintain a strong charge on our batteries because all of our equipment demands a more constant voltage to operate properly." Zackula advises to check for corrosion and clean the battery cables more often. "Just wiping the corrosion off will not properly clean and restore contact," he said.

Bottom line

Having a properly functioning lift is no accident! It takes periodic and diligent maintenance to keep it running at its best. Proper maintenance will make your lift safer and will help save money for your transit agency.

Are lift maintenance requirements different in the winter?

We recently spoke about lift maintenance issues in winter with Mike Kimberling, shop foreman of the Lenexa, Kansas branch of United Access. He said there were no specific lift performance issues that he saw more frequently in the winter than other times of the year, especially if agencies kept up good maintenance.

Kimberling said the main problem he sees in his shop is improper lubrication of the many moving parts on the lifts. He advised never using white lithium grease. "It gets hard, and then the joints won't work properly," he said. In his shop they use a synthetic Cheetah-brand spray; Kimberling said WD-40 dries too quickly. Kimberling's bottom line: lubricate, lubricate, lubricate!

Here are a few more lift maintenance tips:

- DO NOT add fluid to the hydraulic power unit until the platform is lowered to ground level. Adding fluid while lift is stowed will cause the tank to overflow when the platform is lowered.

- Regularly clean the lift with mild soap and dry thoroughly to protect painted surfaces. Cleaning is especially important in areas where roads are salted in winter. Make sure that lift pivot points remain clear and clean prior to lubrication.

- DO NOT lubricate the lift's motor or other electrical components. Lubrication of electrical components may create unintentional short circuits.